UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No.	:	10/613,819	Confirmation No. 6852
Applicant	:	Kirkor Sirinyan	
Filed	:	July 3, 2003	
Title	:	ENDOPARACITICIDAL AND ECTOPARASITICIDAL AGENTS	
Group Art Unit	:	1623	
Examiner	:	ELI PESELEV	
Docket No.	:	LeA 31923 C2	

VIA EFS

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. §1.132

Dr. Andreas Turberg, declares and states as follows:

1. I received a Master of Science degree in Biology in 1986 from Heinrich-Heine-University, in Duesseldorf. Thereafter, I received a Doctorate in Natural Sciences from Heinrich-Heine-University University in Duesseldorf.

2. From 1992 to date, I have been employed by Bayer HealthCare AG, Monheim, Germany. My present position is Head of Laboratory Evaluation Arthropodicidal Drugs of the Department of Parasitology of Clinical Research and Development.

3. Under my direction and control, a study to evidence the synergistic effects of combinations of macrocyclic lactones and neonicotinoids of the present invention against arthropods was conducted. Two compositions of macrocyclic lactones and neonicotinoids were tested, one included

imidacloprid and moxidectin and one included eprinomectin and thiametoxam, as can be seen on the attached supporting documents (Attachment 1). The compositions were each tested by varying the concentration of each active and observing the efficacy of the composition against arthropods, in particular Lucilia cuprina larvae.

4. As detailed in Attachment 1, minced horse meat (1 cm^3) was added to glass vials and supplemented with 500 µl of a compound solution of imidacloprid and ivermectin (concentration range max. 1000 to min. 0.01 ppm, specific concentrations are given in the respective experiment). 30 to 50 larvae were added and the vials were incubated for 48 hrs at 26°C ± 1.5°C and 60% ± 10 % relative humidity. The inhibition of larval development was monitored after 48 hours. Rating: IGR/mortality: 100 % efficacy = no larvae after 48 hrs, 0 % efficacy = normally developed larvae after 48 hrs.

5. As can be seen from Table 1 and Figure 1 there is a range of mixtures that show over-additive effects against arthropods in the Lucilia blowfly larval development assay over the respective compounds alone. While none of the single actives shows efficacy in the concentrations 0.1 and 0.4 ppm (imidacloprid) or 0.5, 0.7 and 1 ppm (moxidectin) mixtures of these concentrations resulted in full efficacy against the blowfly larvae. Table 2a and Table 2b compare the LD50 values (i.e., dose of the composition that causes death in 50% of the larvae) of synergized and non-synergized Imidacloprid and Moxidectin respectively. The LD50 value was calculated from the dose-response curves using excel-plug-in XL-fit.

6. The same experimental set-up was then used on a compound solution of eprinomectin and thiametoxam. As can be seen from Table 3 and Figure 2 there is a range of mixtures that show over-additive effects against arthropods in the Lucilia blowfly larval development assay over the

respective compounds alone. While none of the single actives shows efficacy in the concentrations 0.3, 0.7, 1 and 3 ppm (thiametoxam) or 0.03, 0.07 and 0.1 ppm (eprinomectin), mixtures of these concentrations resulted in full efficacy against the blowfly larvae. Table 4a and Table 4b compare the LD50 values of synergized and non-synergized thiametoxam and eprinomectin respectively. The LD50 value was calculated from the dose-response curves using excel-plug-in XL-fit.

7. As can be observed based on these results, the two chemical classes, macrocyclic lactones and the neonicotinoids act synergistically against arthropods.

8. The applicant further declares that all statements made herein are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like are punishable by fine or imprisonment, or both, under 18 U.S.C. 1001, and that such willful false statements may jeopardize the validity of the application or any patent issuing therefrom.

Dr. Andreas Turberg

10. 11. 2007
Date